

This listing of claims will replace all prior versions, and listings, of claims in the application.

I. Listing of Claims:

1. (Currently Amended) A method of activating a mechanism, wherein a force required to activate the mechanism varies between a minimum force and a maximum force in relation to the time since the mechanism was last activated, the method comprising:

applying an electrical current to a solenoid having an armature extending therefrom, wherein the armature is movable between a first end position and a second end position and wherein the electrical current of the solenoid causes the armature to exert an armature force, in the first end position the armature is spaced apart from and does not contact the mechanism and in the second end position the armature contacts the mechanism;

delaying, after applying the electrical current to the solenoid, the movement of the armature from the first end position to the second end position, with a force significantly greater than under normal operating conditions, until such time as the armature force is greater than the maximum force necessary to activate the mechanism; and

impacting the mechanism with the armature after the armature has kinetic energy.

2. (Currently Amended) The method as recited in claim 1, wherein delaying comprises:

delaying, after applying the electrical current to the solenoid, the movement of the armature from the first end position to the second end position until such time as the armature force exhibits a preselected armature force that is greater than or equal to the maximum force necessary to activate the mechanism.

3. (Original) The method as recited in claim 1, further comprising:

contacting the armature to the mechanism after such time as the armature force is greater than the maximum force necessary to activate the mechanism.

4. (Previously Presented) The method as recited in claim 1, further comprising separating the end of the armature apart from the mechanism such that the armature does not contact the mechanism in the first end position, prior to applying the electrical current.

5. (Currently Amended) The method as recited in claim 1, wherein delaying comprises delaying the armature with a spring biasing the armature against movement from said first end position to said second end position.

6. (Original) The method as recited in claim 1, wherein delaying comprises exerting a force via a spring contacting a shoulder of the armature.

7. (Currently Amended) The method as recited in claim 1 wherein delaying comprises delaying the armature with a body having a mass biasing the armature against movement from said first end position to said second end position.

8. (Currently Amended) A solenoid assembly, for use in activating a mechanism, wherein a force required to activate said mechanism varies between a minimum force and a maximum force in relation to the time since said mechanism was last activated, said solenoid assembly comprising:

a solenoid having an armature extending therefrom, wherein said armature moves between a first end position and a second end position, in the first end position the armature is spaced apart from and does not contact the mechanism and in the second end position the armature is positioned to contact the mechanism, wherein when an electrical current is applied to said solenoid, said solenoid causes said armature to exert an armature force; and

a delay member for delaying the movement of said armature, wherein after the initiation of an electrical current to said solenoid said delay member delays the movement of said armature from said first end position to said second end position, with a force significantly greater than under normal operating conditions, until such time as said armature exhibits an armature force greater than said maximum force necessary to activate said mechanism.

9. (Currently Amended) The solenoid assembly of claim 8, wherein said delay member comprises a spring positioned to bias said armature against movement from said first end position to said second end position.

10. (Original) The solenoid assembly of claim 9, wherein said armature comprises a shoulder and wherein said spring is positioned to exert force against said shoulder.

11. (Original) The solenoid assembly of claim 10, wherein the end of said armature is rod shaped, wherein said shoulder is formed on the outer periphery of said armature and said spring is positioned coaxially with said armature.

12. (Currently Amended) The solenoid assembly of claim 9 further comprising a spacer positioned between said solenoid and a mechanism requiring mechanical movement, so that when said armature is in said first end position the end of said armature is spaced apart from and does not contact said mechanism.

13. (Original) The solenoid assembly of claim 9, further comprising an extension member attached to said armature.

14. (Original) The solenoid assembly of claim 13, wherein said extension member comprises a shoulder, wherein said spring exerts force against said shoulder.

15. (Currently Amended) The solenoid assembly of claim 9, wherein said delay member comprises a body having a mass, said body being attached to said armature for movement with said armature, wherein said mass is sufficient to delay said armature from moving between said first end position and said second end position.

16. (Currently Amended) A solenoid assembly, for use in activating a mechanism wherein a force required to activate said mechanism varies in relation to the time since said mechanism was last activated, said solenoid assembly comprising:

a solenoid having an armature extending therethrough, wherein said armature moves between a first end position and an second end position, in the first end position the armature is spaced apart from and does not contact the mechanism and in the second end position the armature is positioned to contact the mechanism, wherein when an electrical current is applied to said solenoid, said solenoid causes said armature to exert an armature force; and

a delay member for delaying the movement of said armature, wherein after the initiation of an electrical current to said solenoid said delay member delays the movement of said armature from said first end position to said second end position, with a force significantly greater than under normal operating conditions, until said armature exhibits a preselected armature force, necessary to activate said mechanism.

17. (Previously Presented) The solenoid assembly of claim 16, wherein said armature comprises a shoulder and wherein said delay member comprises a spring positioned to exert force against said shoulder.
18. (Original) The solenoid assembly of claim 17, wherein the end of said armature is rod shaped, wherein said shoulder is formed on the outer periphery of said armature and said spring is positioned coaxially with said armature.
19. (Currently Amended) The solenoid assembly of claim 16, wherein said solenoid assembly is adapted for use with a mechanism requiring mechanical movement, said solenoid assembly further comprising a spacer, positioned between said solenoid and said mechanism, so that when said armature is in said first end position the end of said armature is spaced apart from and does not contact said mechanism.
20. (Original) The solenoid assembly of claim 16, further comprising an extension member attached to said armature.
21. (Original) The solenoid assembly of claim 20, wherein said extension member comprises a shoulder, wherein said spring exerts force against said shoulder.
22. (Currently Amended) The solenoid assembly of claim 16, wherein said delay member comprises a body having a mass, said body being attached to said armature for movement with said armature, wherein said mass is sufficient to delay said armature from moving between said first end position and said second end position.
23. (Canceled)
24. (Previously Presented) The method of claim 1, wherein delaying the movement of the armature and impacting the mechanism with the armature provide mechanism activation times consistent to within one millisecond.
25. (Previously Presented) The method of claim 1, wherein delaying the movement of the armature and impacting the mechanism with the armature provide mechanism activation times consistent to within two-tenths of a millisecond.

26. (Previously Presented) The method of claim 1, wherein delaying the movement of the armature and impacting the mechanism with the armature provide mechanism activation substantially at a predefined time after the beginning of an ac power cycle.
27. (Previously Presented) The method of claim 1, wherein delaying the movement of the armature and impacting the mechanism with the armature provide consistent mechanism activation within one millisecond of a predefined time after the beginning of an ac power cycle.
28. (Previously Presented) The method of claim 1, wherein delaying the movement of the armature and impacting the mechanism with the armature provide consistent mechanism activation within about two-tenths of a millisecond of a predefined time after the beginning of an ac power cycle.
29. (Newly Added) The method of claim 1, wherein in the first end position the armature cannot contact the mechanism.
30. (Newly Added) The solenoid assembly of claim 8, wherein in the first end position the armature cannot contact the mechanism.
31. (Newly Added) The solenoid assembly of claim 16, wherein in the first end position the armature cannot contact the mechanism.